



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,443	06/26/2003	Raymond Dueck	VIDI-003	7140

7590 05/14/2004

Michael S. Neustel
Suite No.4
2534 South University Drive
Fargo, ND 58103

EXAMINER

RINEHART, KENNETH

ART UNIT PAPER NUMBER

3749

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,443

Applicant(s)

DUECK ET AL.

Examiner

Kenneth B Rinehart

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/03/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 10, 11-14, are rejected under 35 U.S.C. 102(b) as being anticipated by Cordell et al. Cordell et al shows a primary combustion chamber (400, fig. 1); a secondary combustion chamber fluidly connected to said primary combustion chamber (600, fig. 5); a heat exchanger fluidly connected to said secondary combustion chamber (700, fig. 1); and a rotating grate rotatably positioned within said primary combustion chamber for supporting the biomass during gasification (421, 422, fig. 1), an oxygen mixer positioned between said primary combustion chamber and said secondary combustion chamber (603, fig. 5), a feeder unit in communication with said primary combustion chamber for delivering biomass onto said rotating grate (300, fig. 2), a disintegration unit for disintegrating the biomass before entering said primary combustion chamber (200, 203, 204, fig. 4), wherein said feeder unit includes a fuel magazine capable of storing a volume of the biomass for inputting biomass into said disintegration unit (200 a, fig. 2), said feeder unit includes a conveyor positioned between said disintegration unit and said primary combustion chamber (301b, fig. 2), said rotating grate includes a plurality of openings within for allowing air to pass upwardly through the biomass positioned upon said rotating grate (409, 413, fig. 6), an air distribution system for forcing air beneath said rotating grate through said openings (col. 6, lines 16-45), an ash disposal unit

Art Unit: 3749

positioned beneath said rotating grate for removing collected ash from said primary combustion chamber (1440, fig. 7), said rotating grate has a shape and size similar to an interior of said primary combustion chamber (fig. 6), .

Claims 16, 19, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kupfer. Kupfer shows a primary combustion chamber (fig. 1); a rotating grate rotatably positioned within said primary combustion chamber for supporting the biomass during gasification (3, fig. 1); and a drive motor mechanically connected to said rotating grate for rotating said rotating grate (col. 4, line 9), said rotating grate includes a plurality of openings within for allowing air to pass upwardly through the biomass positioned upon said rotating grate (fig. 1), an air distribution system for forcing air beneath said rotating grate through said openings (22, fig. 1).

Claims 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Fahrenstock. Fahrenstock shows a primary combustion chamber (fig. 1); a rotating grate rotatably positioned within said primary combustion chamber for supporting the biomass during gasification (11, 27-21, fig. 1); and a drive motor mechanically connected to said rotating grate for rotating said rotating grate (A, fig. 1), a feeder unit in communication with said primary combustion chamber for delivering biomass onto said rotating grate (9, fig. 1), said feeder unit includes a plunger member that pushes the biomass into an opening within said primary combustion chamber onto said rotating grate (7, fig. 1).

Claims 1, 3, 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Marangoni. Marangoni shows a primary combustion chamber (2, fig. 1); a secondary combustion chamber fluidly connected to said primary combustion chamber (fig. 1); a heat exchanger fluidly connected to said secondary combustion chamber (4, fig. 1); and a rotating grate rotatably

Art Unit: 3749

positioned within said primary combustion chamber for supporting the biomass during gasification (fig. 1), a feeder unit in communication with said primary combustion chamber for delivering biomass onto said rotating grate (1, fig. 1), said rotating grate includes a plurality of openings within for allowing air to pass upwardly through the biomass positioned upon said rotating grate (fig. 1), an air distribution system for forcing air beneath said rotating grate through said openings (fig. 1), an ash disposal unit positioned beneath said rotating grate for removing collected ash from said primary combustion chamber (fig. 1), said rotating grate has a shape and size similar to an interior of said primary combustion chamber (fig. 1), a drive motor mechanically connected to said rotating grate for rotating said rotating grate (fig. 1), a feeder unit in communication with said primary combustion chamber for delivering biomass onto said rotating grate (1, fig. 1), said feeder unit includes a plunger member that pushes the biomass into an opening within said primary combustion chamber onto said rotating grate (1, fig. 1)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-9, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cordell et al in view of Stolte. Cordell et al discloses a primary combustion chamber (400, fig.1); a secondary combustion chamber fluidly connected to said primary combustion chamber (600, fig. 5); a heat exchanger fluidly connected to said secondary combustion chamber (700, fig. 1); and a

Art Unit: 3749

rotating grate rotatably positioned within said primary combustion chamber for supporting the biomass during gasification (421, 422, fig. 1), an oxygen mixer positioned between said primary combustion chamber and said secondary combustion chamber (603, fig. 5). Cordell et al discloses applicant's invention substantially as claimed with the exception of said feeder unit includes a plunger member that pushes the biomass into an opening within said primary combustion chamber onto said rotating grate, said plunger member moves along a path radial to said rotating grate, wherein said plunger member has a cyclical action, said opening within said primary combustion chamber is surrounded by an input member having a tubular structure, wherein said plunger member is slidably positioned within said input member, a drive motor mechanically connected to said rotating grate for rotating said rotating grate. Stolte teaches said feeder unit includes a plunger member that pushes the biomass into an opening within said primary combustion chamber onto said rotating grate (8, fig. 2), said plunger member moves along a path radial to said rotating grate (fig. 1), wherein said plunger member has a cyclical action (11, fig. 1), said opening within said primary combustion chamber is surrounded by an input member having a tubular structure (fig. 1), wherein said plunger member is slidably positioned within said input member (fig. 2), a drive motor mechanically connected to said rotating grate for rotating said rotating grate (10, fig. 1) for the purpose of providing a predetermined amount of fuel onto the grate. It would have been obvious to one of ordinary skill in the art to modify Cordell by including said feeder unit includes a plunger member that pushes the biomass into an opening within said primary combustion chamber onto said rotating grate, said plunger member moves along a path radial to said rotating grate, wherein said plunger member has a cyclical action, said opening within said primary combustion chamber is

Art Unit: 3749

surrounded by an input member having a tubular structure, wherein said plunger member is slidably positioned within said input member, a drive motor mechanically connected to said rotating grate for rotating said rotating grate as taught by Stolte for the purpose of providing a predetermined amount of fuel onto the grate so that the fuel is more evenly distributed and the apparatus can operate more efficiently.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to apparatus in general: Miller et al (4498909), Berg et al (2171535), Chronowski et al (5823122), Michel-Kim (5026403), Bihlet (5197684).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 703-308-1722. The examiner can normally be reached on 7:30 -4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703-308-1935. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

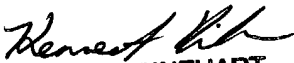
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/608,443

Page 7

Art Unit: 3749

KBR


KENNETH RINEHART
PRIMARY EXAMINER